

Heart of the problem: Investigation of 3 bacterial endocarditis cases following oral surgery- New Jersey 2014

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Background

- Endocarditis- infection of the inner lining of the heart
- Bacteria enter the bloodstream and attach to areas of the heart
- The most common microbiologic causes of endocarditis are *Staphylococcus spp* and viridans group streptococci
- Risk factors- damaged heart valves, artificial heart valves, previous endocarditis
- Risk in the general population- one case of endocarditis per 14 million dental procedures



Background

- October 20, 2014- 2 cases of bacterial endocarditis
 - *Enterococcus faecalis*
 - Only approximately 5 – 10% of cases of endocarditis are caused by *Enterococcus spp*.
- Cases received dental extractions at the same oral surgery office
- November 6, 2014- New Jersey Board of Dentistry (BOD) revealed a patient complaint filed in 2013 associated with the oral surgeon, also developed *Enterococcus faecalis* infection



History of Cases

- Patient A, 69 years old
 - Procedure Date: 12/20/12
 - Extraction with bone graft, IV sedation
 - Outcome: required valve replacement
- Patient B, 17 years old
 - Procedure Date: 5/7/14
 - Wisdom tooth extraction, IV sedation
 - Outcome: required valve replacement
- Patient C, 23 years old
 - Procedure Date: 6/27/14
 - Wisdom tooth extraction, IV sedation
 - Outcome: required surgery



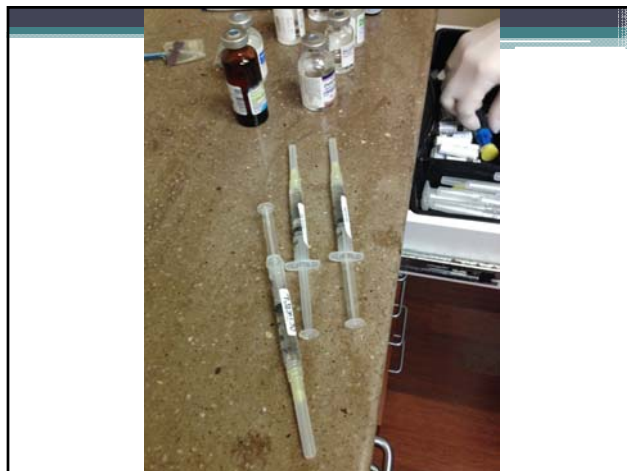
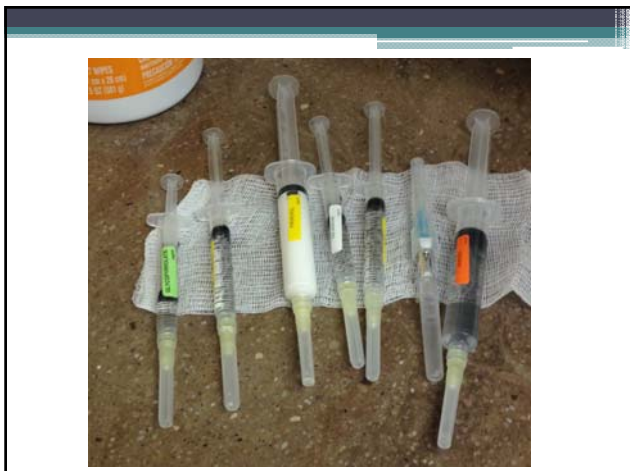
Private Practice Characteristics

- Oral surgeon practiced at two locations, all cases received treatment at same location
 - Staffing was the same at both locations
- Surgeon reported seeing 2-7 patients per day, up to 35 patients per week
- Performed procedures such as extractions, implants, bone grafting, impressions, and botox-restylane injections
- Cleaning, disinfection, and sterilization of instruments occur on-site



1st Site Visit, 11/14/14

- **Participants:**
 - Communicable Disease Service, Local Health Department, Division of Consumer Affairs Enforcement Bureau
- **Findings:**
 - Controlled substances stored in a locked cabinet within unlocked employee bathroom which housed a toilet, sink, and employee lockers
 - Single-dose vials of medication were used for more than one patient
 - Aseptic technique was not followed when accessing medication vials or starting the intravenous catheter







Follow up with Oral Surgeon and Board of Dentistry

- Preliminary report and recommendations made to surgeon
 - Discard any previously opened sterile instrument and medications
 - Hire an infection preventionist consultant
- Board of Dentistry and Deputy Attorney General (DAG) scheduled re-visit with oral infection control expert and oral surgeon consultant



2nd Site Visit, 01/13/15

- **Participants:**
 - Communicable Disease Service, Division of Consumer Affairs Enforcement Bureau, oral infection control expert, oral surgery consultant
- **Findings:**
 - Patient procedures were cancelled so actual patient care activities were not observed
 - Controlled substances relocated to a locked cabinet within the oral surgeon's private office
 - Syringes/needles and intravenous solution bags were observed to be within their protective wrappers.
 - Prefilled syringes were not observed in the procedure rooms
 - The oral surgeon had not yet retained the services of an infection preventionist
 - Multidose vials of medication were stored and prepared for patients in the immediate patient care area.



Follow Up

- Communicable Disease Service sent another report to oral surgeon highlighting findings
 - Although practice was better, still a need for an infection preventionist consultant
- Board of Dentistry gave interim consent order for surgeon to comply (to date -have not received signed copy back)
- Surgeon still in practice today



Conclusions

- Close collaboration with Board of Dentistry and Office of the Attorney General important
- Difference between best practice and common practice
- Sterility issue when conducting procedures in the mouth
- Infection prevention expertise lacking in private practice settings



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THANK YOU!

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